Proposed Plan and Fact Sheet for Dry Cleaning Shop Site
COMNAVMARIANAS, Guam

August 2002

This Proposed Plan and Fact Sheet describes the removal action activities performed at Commander U.S. Naval Forces Marianas (COMNAVMARIANAS) Guam under the Installation Restoration (IR) Program. This is No. 3 in a series of informational flyers that will be issued periodically throughout the cleanup process.

U.S. Navy Announces Proposed Plan

The U.S. Navy invites the public to comment on the Proposed Plan for the Dry Cleaning Shop Site located within Commander U.S. Naval Forces Marianas (COMNAVMARIANAS) on Bright Road, east of the Naval Exchange (NEX) buildings. The Dry Cleaning Shop was originally part of the Central Laundry Facility which was once located in Building 256, but is currently used as a furniture store and warehouse. Wetlands to the north, east, and south have been identified as a habitat for the endangered Marianas common morehen (*Gaillinula Chlorpus guami*). Another potential receptor at the Site is the yellow bittern (*Ixobrychus sinesis*), a species protected under the Migratory Bird Treaty Act of 1981. Building 256 is situated on a small plateau that protrudes eastward into these wetlands.

A Remedial Investigation was conducted in 1993 to evaluate soil, groundwater and wetland sediments at the Dry Cleaning Shop. Based on the RI data, a supplemental investigation, which consisted of a groundwater monitoring program, was performed. The objectives of the additional investigations were to:

- further evaluate the extent of groundwater impacts associated with the release of stoddard solvent and petroleum hydrocabons; and,
- evaulate whether *in-situ* biodegradation is occuring at the site.

The monitoring program consisted of sampling 15 existing monitoring wells during two sampling events in August 2000 (wet season) and February 2001 (dry season). Samples were analyzed for fuel- and dry cleaning-related chemicals. Evaluation of the groundwater sampling data indicated that site groundwater quality is better than Guam and Federal standards.

Figure 1: Site Location

Site Background

The Dry Cleaning Shop was operated from 1952 through 1975 and provided laundry and dry cleaning services for all naval facilities, including the hospital, in Guam. Six (6) underground storage tanks (USTs) and two (2) concrete sumps were utilized in the dry cleaning operations. Three (3) USTs were located to the north of Building 256 and contained stoddard solvent. The remaining three (3) USTs were located to the south of Building 256 and were used for fuel oil storage. The concrete sumps were utilized as brine and backwash water sumps. Laundry waste (i.e., wash water with detergent, bleach, and spot remover) was reportedly discharged to the sanitary sewer for disposal. Waste dry cleaning solvent was collected in a holding tank and reclaimed by distillation methods. Since 1982, the site has been under investigation by the Navy to assess stoddard solvent and petroleum-impacted soil and groundwater. The USTs and sumps were removed in April 1994 under the Navy's UST program.

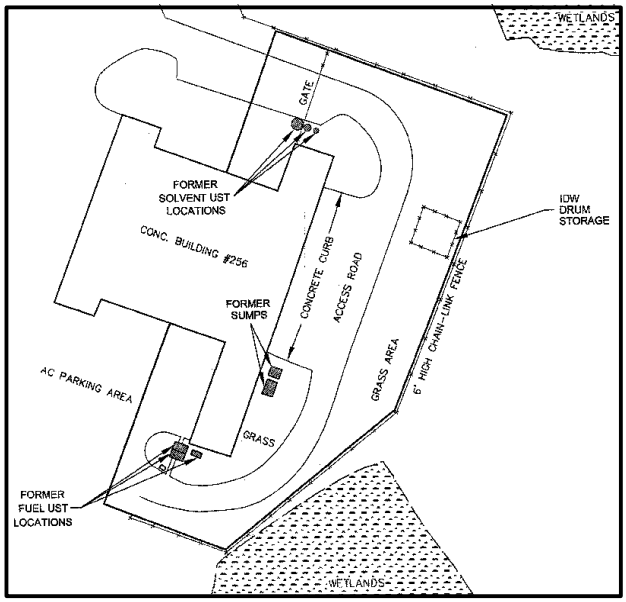

Figure 2: Site Map - Former USTs and Sumps Locations

Previous Site Investigations

Different phases of environmental investigation work have been conducted at the Site: Initial Assessment Study (1982), Resource Conservation and Recovery Act (RCRA) Facility Assessment (1982), and a Site Inspection (1990). The Site Inspection also included limited soil and groundwater sampling program and installation of two groundwater monitoring wells at the Site. These investigations identified the USTs on-site as potential sources of contamination; the USTs were removed in 1994. Results from the site investigations prompted the performance of a Remedial Investigation (RI) in 1993. RI activities included surface soil sampling in 14 locations and completion of 8 trenches and 20 soil borings. The RI also include installation and sampling of 13 additional groundwater monitoring wells. Reports detailing the site investigation activities are located in the Administrative Record (see below).

Location of Administrative Records

Nieves M. Flores Memorial Library
254 Martyr Street
Hagatna, Guam 96910
Phone: (671) 475-4751, 4752, 4753, 4754
Hours: Mon, Wed, Fri: 9:30a.m. to 6:00 p.m.
Tues, Thurs: 9:30 a.m. to 8:00 p.m.
Sat: 10:00 a.m. to 4:00 p.m.
Sun: 12:00 p.m. to 4:00 p.m.
Contact: Ms. Christine Scott-Smith

Figure 3: Groundwater Monitoring Wells Installed at the Site

The results of RI which was completed in 1996 indicated the following characteristics of contamination at the Dry Cleaning Shop Site:

- Contaminant sources include stoddard solvent (a hydrocarbon-based dry cleaning fluid) and fuels that potentially leaked or spilled from the USTs.
- Contaminants of potential concern (COPCs) that impacted the soil and groundwater include petroleum hydrocarbons (TPH) as gasoline, diesel, and stoddard solvent; volatile organic compounds (VOCs); and polycyclic aromatic hydrocarbons (PAHs).
- Soil samples obtained from the former diesel UST area that contained PAH concentrations greater than screening values were localized. Adjacent samples contained PAH concentrations that were either less than laboratory detection limits or less than screening values for the Site.
- A 6- to 12-inch thick layer of soils containing stoddard solvent was observed within the capillary fringe zone, approximately 14 feet below ground surface, near the location of the stoddard solvent USTs.
- On the basis of laboratory results from more distant wells, dissolved stoddard solvent appears to be limited to the vicinity of the former solvent USTs.

The RI concluded that soil contamination was limited to subsurface area in the vicinity of the former UST locations, and that seasonal reversal in groundwater flow impeded off-site flow. Thus, under the current land use scenario, soil and groundwater contamination at the Site did not appear to pose a direct threat to human health or the environment.

Supplemental RI Investigation

A groundwater monitoring program was implemented in August 2000 during the wet season and February 2001 during the dry season at the request of GEPA to provide current groundwater quality data and natural attenuation data. The objectives of the monitoring program were to collect the necessary data to: (1) assess if groundwater impacts are present; and, (2) further evaluate the data to access if natural attenuation is occurring. The basic concept behind natural attenuation is to allow natural environmental conditions and microorganisms present in the soil and groundwater to effectively reduce, through biodegradation, contaminant toxicity, mobility, or volume to levels that are protective of human health and the environment.

Analytical results from the groundwater sampling events, from March 1993 to February 2001, indicated that site contaminant concentrations have generally decreased over time. In general, VOCs and SVOCs were not detected above laboratory detection limits in the current monitoring program. Gasoline range organics (TPH-g) were identified near the former solvent locations; it is believed that the occurrence of gasoline range organics is most likely attributable to degraded stoddard solvent. TPH analytical data from the groundwater sampling events conducted during the RI and supplement RI indicate that, in general, TPH concentrations have decreased over time, suggesting natural attenuation is occurring and reduction in the size of the contaminant zone. Natural attenuation parameters data supports the occurrence of biodegradation of site contaminants, further reducing the contaminant mass.

Summary of Site Risks

Human health and ecological risk assessments (HHRA and ERA) were performed as part of the RI in 1994 to evaluate the potential threat to human health and the environment associated with contaminant releases from the Dry Cleaning Shop Site. The HHRA concluded that existing environmental contamination does not pose a risk to human health via dermal contact with soil and soil ingestion pathways under current land use scenario. Groundwater and surface water pathways were determined to be incomplete.

Figure 4: Dry Cleaning Shop Site Area

The ERA concluded that concentrations of metals, PAHs, and organochlorine compounds could potentially pose a risk to ecological receptors. However, these concentrations are low and appear to be localized in isolated incidences and not widespread throughout the Site. Further, the identified source of contaminants, fuel USTs, solvent USTs, and brine/backwash sumps, were removed by the Navy in 1994, thus this area is unlikely to continue to act as a contamination source. Therefore, the ERA concluded that there were no significant threats to the environment or nearby wetlands under the current land use scenario.

No Further Action at the Dry Cleaning Shop Site

No further action is appropriate for sites where no current or potential future unacceptable risks to human health or the environment exists. The HHRA and ERA concluded that there were no significant threats to human health and the environment under current land use scenario. All USTs and concrete sumps have been removed from the Site and no longer contribute as a contaminant source to area groundwater. Analytical results from the four (4) quarters of groundwater sampling during the RI (March 1993 to March 1994) and two (2) additional sampling events during the supplemental RI (August 2000 and February 2001) indicate that site contaminants have generally decreased over time. The decrease in TPH (gasoline range organics) concentrations suggests that biodegradation of on-site hydrocarbons is occurring, thus further reducing site contaminant mass. Therefore, the Dry Cleaning Shop Site is recommended to be closed with "No Further Response Action Planned".

Community Participation – Tell Us What You Think

The Navy encourages the public to review and comment on this Proposed Plan and Fact Sheet. Information which describes all work conducted at the Site is available in the Administrative Record for the Site, which is located at the Nieves M. Flores Memorial Library, Hagatna, Guam (see Page 2). Public comments will be accepted from August 16, 2002 to September 16, 2002. Please submit written comments to Ms. Michelle Yoshioka at the address below. Written comments must be postmarked by September 16, 2002. The public comment period maybe extended up to 30 days by submitting a request for an extension in writing to the Navy by September 9, 2002.

Community members may also submit oral and written comments on the Proposed Plan at the Restoration Advisory Board Meeting to be held at 7:00 pm on August 29, 2002 at Hyatt Regency Hotel Ballroom. Representatives from the Navy and GEPA will be present to answer questions and discuss the activities conducted at the Dry Cleaning Shop Site. A Decision Document will be issued to respond to public comments and document the final decision.

CONTACTS	
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Glossary

Administrative Record: A file containing all reports, studies, evaluations, plans, and other information relating to the Site.

Contaminants of Potential Concern (COPCs): Contaminants in soils, surface water or groundwater that may warrant concern because of their contribution to a potential human health risk or ecological risk, or naturally occurring background concentrations.

Natural attenuation: The biodegradation, dispersion, dilution, sorption, volatilization, and/or chemical and biochemical stabilization of contaminants to effectively reduce contaminant toxicity, mobility, or volume to levels that are protective of human health and the environment.

Proposed Plan: A document that reviews site history and characteristics, site risks, site activities performed, and solicits public comments.

Remedial Investigation (RI): The methodology established by USEPA for determining the nature and extent of contamination at a Site and the risks posed by the presence of that contamination.

Risk Assessment: A study conducted as part of a remedial investigation that describes the risk posed to human health or the environment due to exposure to contaminants present in the air, soil, surface water or groundwater.

References

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